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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,598	05/02/2001	Harvey Koselka	PRSROB.003A	7149

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EXAMINER

MILLER, PATRICK L

ART UNIT	PAPER NUMBER
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2837

DATE MAILED: 10/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/847,598

Applicant(s)

KOSELKA ET AL.

Examiner

Patrick Miller

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-17, 19-22 and 25-27 is/are rejected.
- 7) ☒ Claim(s) 12, 18, 23 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: The applicant cites relevant application, "Remote Controlled Floor Mopping Apparatus", but since the applications were filed on the same day, the application number is not given. The applicant is required to fill in the appropriate number.

Claim Objections

2. Claims 14 and 20 are objected to because of the following informalities:
 - Claim 14 cites "the roller is configured to rest on the surface". It is unclear to what surface the applicant is referring. Please clarify.
 - Claim 20 cites "the surface". There is a lack of antecedent basis for "the surface".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Bierma (WO 91/11134).
 - Bierma discloses a floor mopping assembly, comprising: a first roller that lets out a web on a roll (Fig. 1, #1), a second roller that reels in the web (Fig. 1, #2), a motor system that operates the rollers to transfer the web (Fig. 1, #1), a pad (pressing means, e.g. endless belt) that presses the web against a surface (Fig. 1, #8), and a housing that encloses the motor system, first and second rollers, and the pad (endless belt) (Fig. 1, #15).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-8, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bierma (WO 91/11134) as applied to claim 1 above, and further in view of Kinto (6,142,252).

- Bierma teaches all of the limitations of claim 1 above, but with respect to claims 2-4, does not disclose the housing being part of a cleaning robot, the robot being remotely controlled, and the robot being autonomous.
- Kinto discloses an autonomous vehicle that can be controlled by a remote control and can be used to clean surfaces. Kinto's motivation for using a remote control and making the robot autonomous is so the user—via the remote control—can initiate an operation from a distance (Col. 7, lines 41-43). The CPU controls further operations by receiving contact and distance information from sensors (Col. 7, lines 8-19). This allows the user to initiate new operations from a distance, while allowing the robot to perform operations via a CPU (autonomously), having the advantage of better maneuvering since the CPU controls the robot more precisely than a user controlling the robot from a distance with a remote control. Additionally, Kinto is evidence that robots can be configured with a floor cleaning apparatus. Providing the components of a robot (e.g. CPU, memory, etc.) to the floor mopping assembly of Bierma has the advantage of cleaning the floor without

manual labor and allowing the floor mopping assembly to be programmed to clean the floor at a certain time or in a certain way.

- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention that the floor mopping assembly of Bierma could be configured with the components of a robot (e.g. CPU, memory, etc.) so the floor mopping assembly can be initialized by a remote control and perform operations autonomously. One having ordinary skill in the art would recognize the advantage of the floor mopping assembly modified with the components of a robot and controlled via a remote control and operating autonomously is the floor is cleaned with no manual labor and the robot's movements are more precise, as taught by Kinto.
- With respect to claim 5, Bierma discloses a floor mopping apparatus that feeds the soiled portion of the cloth (web) to the second roll, thereby disposing of the soiled portion for a clean portion (pg. 1, lines 21-29).
- With respect to claim 6, Bierma discloses the pad (pressing means or endless belt) is compliant (pg. 3, lines 35-36) and the pressing means is made from metal or steel and the endless belt is made of a porous resilient material (pg. 4, lines 17-20), where a porous resilient material is interpreted to be non-absorbent.
- With respect to claim 7, Bierma discloses the pad (pressing means) can be made from foam materials like polyether foam (closed-cell foam) (pg. 2, lines 25-28).
- With respect to claim 8, Bierma discloses wet cleaning by impregnating the web (cloth) with a cleaning agent (pg. 3, lines 22-26).
- With respect to claim 11, Bierma discloses a cloth-based web (pg. 3, line 22).

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5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bierma (WO 91/11134) as applied to claim 1 above, and further in view of Bartsch (6,459,95).

- Bierma teaches all of the limitations of claim 1 above, but with respect to claim 9, does not disclose the roll of web being encased in a watertight compartment.
- Bartsch discloses a cleaning apparatus where the entire apparatus is waterproof (watertight). Bartsch makes the entire cover waterproof (Fig. 1, #10) (entire cover would encase the roll of web), which has the advantage of protecting the internal components of the apparatus from liquids and hazardous chemicals (Col. 28, lines 1-6), thereby preventing internal corrosion.
- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention that the floor mopping assembly of Bierma could be modified with a waterproof (watertight) cover that encases the components of the apparatus (including the roll of web), providing the advantage of preventing internal corrosion, as taught by Bartsch.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bierma (WO 91/11134) as applied to claim 1 above, and further in view of Ueno (JP 11-178765).

- Bierma teaches all of the limitations of claim 1 above, but with respect to claim 10, does not disclose the web being a paper-based material.
- Ueno discloses a cleaning robot with a paper mop (Fig. 1, #45). Ueno uses a paper mop to absorb dust [0017]. The advantage of using a paper mop is because paper is less expensive compared to a cloth mop (web). Additionally, paper can come rolled, thus a

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person of ordinary skill in the art would recognize a roll of paper could be substituted for a cloth-based roll (web).

- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention that the cloth-based web of Bierma could be replaced with a paper web that absorbs dust and has the advantage of being less expensive compared to a cloth web, as taught by Ueno.

7. Claims 13, 15, 16, 19, 20, 21, 22, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bierma (WO 91/11134) in view of Kinto (6,142,252).

- With respect to claims 13, 15, 16, 19, and 20, Bierma discloses a floor mopping assembly, comprising: a mobile chassis (Fig. 1, #13), a first roller that lets out a web on a roll (Fig. 1, #1), a second roller that reels in the web (Fig. 1, #2), a motor system that operates the rollers to transfer the web between the first and second rolls (Fig. 1, #1), the motor system and first and second rollers are conveyed by the chassis (Fig. 1), and a housing that encloses the chassis, the motor system, and first and second rollers (Fig. 1, #15). Additionally, Bierma discloses a method of mopping a surface with a mopping device, the method comprising: connecting a roll of webbing on a feed roller to a take-up roller, pressing the portion of the webbing so the webbing cleans the surface (pg. 4, lines 19-21), and transferring the portion of the webbing to the take-up roller (pg. 4, lines 26-29).
- Bierma does not disclose a computerized chassis, at least one drive motor configured to provide mobility (of the apparatus), the chassis includes a processor configured to control the motor system, and the method of moving the device without human intervention.

- Kinto discloses a travel unit CPU (processor) that is onboard the vehicle (chassis) (Col. 10, lines 29-49), a drive motor providing mobility for the vehicle (Col. 6, lines 66-67), and the CPU controls the drive motor (without human intervention). Kinto's motivation for using a travel unit CPU to control a drive motor that drives the vehicle is to centralize overall control of the mobile unit (Fig. 1, #10). This has the advantage improving efficiency since the CPU receives all measured values from each control unit (e.g. motor control unit and chassis rotation control unit) and singly responsible for processing data and controlling vehicle movement.
- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention that the floor mopping assembly of Bierma could be modified by making the chassis computerized (including a processor to control the motor system) and one drive motor configured controlled by the CPU (without human intervention) to provide mobility, which has the advantage of improving system efficiency, as taught by Kinto.
- With respect to claim 21, Bierma does not explicitly state the cleaning process should be repeated until the entire floor surface is mopped; however, one having ordinary skill in the art would recognize that in order to properly clean the entire surface, the disclosed process must be repeated. Repeating the cleaning steps have the advantage of ensuring the unclean portion of floor is cleaned with a clean webbing portion.
- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to repeat the cleaning method of Bierma, which has the advantage of ensuring the unclean portion of floor is cleaned with a clean webbing portion.

- With respect to claim 22, Bierma discloses the method where transferring includes moving the webbing via a motor system (pg. 1, lines 20-25).
 - With respect to claim 25, Bierma discloses the method of moistening the webbing prior to pressing (pg. 3, lines 32-34).
 - With respect to claim 26, Bierma discloses the method of applying a cleaning agent to the webbing (pg. 3, lines 29-31).
8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bierma and Kinto as applied to claim 13 above, and further in view of Buchanon (1,130,064).
- Bierma and Kinto teach all of the limitations of claim 13 above, and Bierma additionally discloses a housing enclosing the chassis, motor system, first and second rollers. With respect to claim 17, Bierma and Kinto do not disclose one of the rollers resting on the floor surface.
 - Buchanon discloses a floor cleaner with a first roller and a second roller, where the first roller rests on the floor surface (Fig. 2, #12). Buchanon's motivation for providing the first roller resting on the floor surface so the rolled cleaning cloth can provide the cushion for applying to the floor (Col. 1, lines 23-30). Providing the first roller in contact with the floor is advantageous because the floor will not get damaged since the padding is provided in the roller (and cleaning cloth).
 - Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the two-roller configuration in the cleaning apparatus of Bierma and Kinto with two rollers where one roller is positioned on the cleaning

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surface, providing the advantage of padding the floor cleaner from the floor surface, as taught by Buchanan.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bierma and Kinto, as applied to claim 13 above, and further in view of Bartsch (6,459,95).

- Bierma and Kinto teach all of the limitations of claim 13 above, but with respect to claim 17, do not disclose the roll of web being encased in a watertight compartment.
- Bartsch discloses a cleaning apparatus where the entire apparatus is waterproof (watertight). Bartsch makes the entire cover waterproof (Fig. 1, #10) (entire cover would encase the roll of web), which has the advantage of protecting the internal components of the apparatus from liquids and hazardous chemicals (Col. 28, lines 1-6), thereby preventing internal corrosion.
- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention that the floor mopping assembly of Bierma and Kinto could be modified with a waterproof (watertight) cover that encases the components of the apparatus (including the roll of web), providing the advantage of preventing internal corrosion, as taught by Bartsch.

10. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bierma and Kinto, as applied to claim 20 above, and further in view of Silvenis (5,092,699).

- Bierma and Kinto teach all of the limitations of claim 20 above, but with respect to claim 27, do not disclose applying a wax to the webbing.
- Silvenis discloses a floor cleaning apparatus where wax is applied directly to a fabric (webbing) (Fig. 3, #22) (Col. 2, lines 46-52). Silvenis's motivation for applying wax to

the fabric is apply a coat of wax to the floor. Applying wax to the fabric (webbing) has the advantage of not wasting wax by inaccurate spraying, as sometimes occurs when using a separate or elevated wax application.

- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the cleaning apparatus of Bierma and Kinto so that wax can be applied to the webbing, which has the advantage of not wasting wax, as taught by Silvenis.

Allowable Subject Matter

11. Claims 12, 18, 23, and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

- With respect to claims 12 and 18, Bierma discloses replaceable rollers, but does not disclose the web being encased in a disposable assembly.
- With respect to claim 23, Bierma discloses transferring soiled webbing, but does not disclose determining if the webbing is soiled before transferring it.
- With respect to claim 24, Kinto discloses programming a cleaning robot to clean a predetermined area, but does not disclose transferring a soiled web when the mopping device has cleaned a predetermined area.

Prior Art of Record

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Horst (3,868,738) discloses an automatic cleaning machine with a dusting cloth transferred between two rollers—one feeding and the other taking up. Horst also discloses a roller resting on the surface, but the roller resting on the surface is not the feed or take-up roller.
- Silvenis (5,092,699) discloses a floor cleaning apparatus with two rollers and a web. The bottom roller is close to the surface to be cleaned, but does not rest on the surface.
- Colens (6,389,329) discloses a mobile cleaning robot.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Miller whose telephone number is 703-308-4931. The examiner can normally be reached on M-F, 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on 703-308-3370. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3431.

plm
October 3, 2002


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